Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L29	5	L28 and blend$3	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/03/10 11:04
L28	5	(US-5949424-$ or US-6525740-$ or US-6765584-$ or US-6850244-$ or US-6256038-$).did.	USPAT	OR	OFF	2005/03/10 11:04
L27	7	((bi-quadratic and b-splines) or (biquadratic and bsplines))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 10:52
L26	5	((bi-quadratic same b-splines) or (biquadratic same bsplines))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 10:52
L25	0	(382/260.ccls. or 345/606.ccls.) and ((bi-quadratic same b-splines) or (biquadratic same bsplines))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 10:50
L24	0	(382/260.ccls. or 345/606.ccls.) and ((bi-quadratic near5 b-splines) or (biquadratic near5 bsplines))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 10:50
L23	0	L9 and ((bump or height) adj map$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:05
L22	0	L9 and (((bump or height) adj map$4) and (surface and vector))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:05
L21	0	L9 and (((bump or height) adj map$4) and (surface and normal))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:05
L20	0	L9 and (((bump or height) adj map$4) and (surface near7 normal))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:05

L19	0	L9 and (((bump or height) adj map$4) and (tangent near7 vector))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:04
L12	5	L8 and (height adj map$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:04
L18	5	L17 not L6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:02
L17	18	L14 and L15	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:02
L15	66	(L1 or L2 or L3) and ((bump adj map$4) and filter$3 and (surface near7 normal))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:02
L14	18	(L1 or L2 or L3) and ((bump adj map$4) and filter$3 and (tangent near7 vector$))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:01
L13	0	L8 and (bump adj map$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:01
L10	0	L8 and (bump adj map)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:01
L5	44	(L1 or L2 or L3) and ((bump adj map$3) and filter$3 and (surface near7 normal))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:01
L4	13	(L1 or L2 or L3) and ((bump adj map$3) and filter$3 and (tangent near7 vector$))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:01

L9	720	382/260.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:00
L8	171	382/108.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 08:00
L6	13	L4 and L5	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/03/10 07:50
L3	683	345/582.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 07:49
L2	455	345/428.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 07:49
L1	587	345/426.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 07:49
S8	47	345/584.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/10 07:48
S9	66	345/586.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 15:27
S7	682	345/582.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 14:47
S6	455	345/428.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 14:47

S5	586	345/426.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 14:47
S1	19	fenney-simon.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 14:45
S4	2	"5949424".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 13:46
S2	1	fazzini-paolo-giuseppe.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 13:46
S3	0	fazzini-paolo.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/03/08 13:45

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1 Smooth spline surfaces over irregular meshes

Charles Loop

July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**

Full text available: pdf(670.33 KB) ps(8.76 MB)

Additional Information: full citation, abstract, references, citings, index terms

An algorithm for creating smooth spline surfaces over irregular meshes is presented. The algorithm is a generalization of quadratic B-splines; that is, if a mesh is (locally) regular, the resulting surface is equivalent to a B-spline. Otherwise, the resulting surface has a degree 3 or 4 parametric polynomial representation. A construction is given for representing the surface as a collection of tangent plane continuous triangular Be´zier patches. The algorithm is simple, efficient, an ...

Keywords: B-spline surfaces, arbitrary topology, computer-aided geometric design, geometric continuity, irregular meshes, triangular patches

2 Closed smooth piecewise bicubic surfaces

S. L. Lee, A. A. Majid

October 1991 **ACM Transactions on Graphics (TOG)**, Volume 10 Issue 4

Full text available: pdf(1.00 MB)

Additional Information: full citation, references, citings, index terms, review

Keywords: B-splines, Be´zier representation, bicubic patches, closed surfaces, de Casteljau algorithm, geometric continuity, geometric modeling

3 Polyhedral subdivision methods for free-form surfaces

Ahmad H. Nasri

January 1987 **ACM Transactions on Graphics (TOG)**, Volume 6 Issue 1

Full text available: pdf(2.97 MB)

Additional Information: full citation, abstract, references, citings, index terms, review

One of the central issues in computer-aided geometric design is the representation of free-form surfaces which are needed for many purposes in engineering and science. Several limitations are imposed on most available surface systems: the rectangularity of the network describing a surface and the manipulation of surfaces without regard to the volume enclosed are examples. Polyhedral subdivision methods suggest themselves as a solution to these problems. Their use, however, is not widespread ...

4 Generalized B-spline surfaces of arbitrary topology

Charles Loop, T. D. DeRose

September 1990 **ACM SIGGRAPH Computer Graphics , Proceedings of the 17th annual conference on Computer graphics and interactive techniques**, Volume 24 Issue 4

Full text available: pdf(2.76 MB) Additional Information: full citation, abstract, references, citings, index terms

B-spline surfaces, although widely used, are incapable of describing surfaces of arbitrary topology. It is not possible to model a general closed surface or a surface with handles as a single non-degenerate B-spline. In practice such surfaces are often needed. In this paper, we present generalizations of biquadratic and bicubic B-spline surfaces that are capable of capturing surfaces of arbitrary topology (although restrictions are placed on the connectivity of the control mesh). These results a ...

5 Hidden curve removal for free form surfaces

Gershon Elber, Elaine Cohen

September 1990 **ACM SIGGRAPH Computer Graphics , Proceedings of the 17th annual conference on Computer graphics and interactive techniques**, Volume 24 Issue 4

Full text available: pdf(859.70 KB) Additional Information: full citation, abstract, references, citings, index terms

This paper describes a hidden curve algorithm specifically designed for sculptured surfaces. A technique is described to extract the visible curves for a given scene without the need to approximate the surface by polygons. This algorithm produces higher quality results than polygon based algorithms, as most of the output set has an exact representation. Surface coherence is used to speed up the process. Although designed for sculptured surfaces, this algorithm is also suitable for polygonal data ...

6 Filleting and rounding using trimmed tensor product surfaces

Gershon Elber, Elaine Cohen

May 1997 **Proceedings of the fourth ACM symposium on Solid modeling and applications**

Full text available: pdf(1.00 MB) Additional Information: full citation, references, citings, index terms

7 Efficient, fair interpolation using Catmull-Clark surfaces

Mark Halstead, Michael Kass, Tony DeRose

September 1993 **Proceedings of the 20th annual conference on Computer graphics and interactive techniques**

Full text available: pdf(788.34 KB) Additional Information: full citation, references, citings, index terms

Keywords: B-spline surfaces, computer-aided geometric design, subdivision surfaces, thin-plate splines

8 Adaptive smooth scattered-data approximation for large-scale terrain visualization

Martin Bertram, Xavier Tricoche, Hans Hagen

May 2003 **Proceedings of the symposium on Data visualisation 2003**

Full text available: pdf(3.75 MB) Additional Information: full citation, abstract

We present a fast method that adaptively approximates large-scale functional scattered data sets with hierarchical B-splines. The scheme is memory efficient, easy to implement and produces smooth surfaces. It combines adaptive clustering based on quadtrees with piecewise polynomial least squares approximations. The resulting surface components are locally approximated by a smooth B-spline surface obtained by knot removal. Residuals are computed with respect to this surface approximation, determi ...

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1 **Representing spheres and ellipsoids using periodic NURBS surfaces with fewer control vertices**
Kaihuai Qin; Wenping Wang; Zesheng Tang;
Computer Graphics and Applications, 1998. Pacific Graphics '98. Sixth Pacific Conference on , 26-29 Oct. 1998
Pages:210 - 211

[Abstract] [PDF Full-Text (40 KB)] **IEEE CNF**

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